

**Translation**

**PATENT COOPERATION TREATY**

**PCT**

**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>2003-0605P</b>	<b>FOR FURTHER ACTION</b>	See Form PCT/IPEA/416
International application No. <b>PCT/EP2004/006927</b>	International filing date (day/month/year) <b>25.06.2004</b>	Priority date (day/month/year) <b>26.06.2003</b>
International Patent Classification (IPC) or national classification and IPC		
Applicant <b>OCE PRINTING SYSTEMS GMBH</b>		

1.	This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.	
2.	This REPORT consists of a total of <u>6</u> sheets, including this cover sheet.	
3.	This report is also accompanied by ANNEXES, comprising: a. <input checked="" type="checkbox"/> (sent to the applicant and to the International Bureau) a total of <u>2</u> sheets, as follows: <input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions). <input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box. b. <input type="checkbox"/> (sent to the International Bureau only) a total of _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).	
4.	This report contains indications relating to the following items: <input checked="" type="checkbox"/> Box No. I Basis of the report <input type="checkbox"/> Box No. II Priority <input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability <input type="checkbox"/> Box No. IV Lack of unity of invention <input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement <input type="checkbox"/> Box No. VI Certain documents cited <input type="checkbox"/> Box No. VII Certain defects in the international application <input type="checkbox"/> Box No. VIII Certain observations on the international application	

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

# INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/006927

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
  - ☐ This report is based on translations from the original language into the following language \_\_\_\_\_ which is the language of a translation furnished for the purposes of:
    - ☐ international search (Rule 12.3 and 23.1(b))
    - ☐ publication of the international application (Rule 12.4)
    - ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
  - ☐ the international application as originally filed/furnished
  - ☒ the description:
    - pages 1-7 \_\_\_\_\_ as originally filed/furnished
    - pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
    - pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
  - ☒ the claims:
    - nos. \_\_\_\_\_ as originally filed/furnished
    - nos.\* \_\_\_\_\_ as amended (together with any statement) under Article 19
    - nos.\* 1-10 \_\_\_\_\_ received by this Authority on 18.04.2005 with letter of 18.04.2005
    - nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
  - ☒ the drawings:
    - sheets 1/3-3/3 \_\_\_\_\_ as originally filed/furnished
    - sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
    - sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
  - ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
  - ☐ the description, pages \_\_\_\_\_
  - ☐ the claims, nos. \_\_\_\_\_
  - ☐ the drawings, sheets/figs \_\_\_\_\_
  - ☐ the sequence listing (*specify*): \_\_\_\_\_
  - ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
  - ☐ the description, pages \_\_\_\_\_
  - ☐ the claims, nos. \_\_\_\_\_
  - ☐ the drawings, sheets/figs \_\_\_\_\_
  - ☐ the sequence listing (*specify*): \_\_\_\_\_
  - ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/006927

Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement															
1. Statement	<table><tr><td rowspan="2">Novelty (N)</td><td>Claims <u>1-10</u></td><td>YES</td></tr><tr><td>Claims _____</td><td>NO</td></tr><tr><td rowspan="2">Inventive step (IS)</td><td>Claims <u>1-10</u></td><td>YES</td></tr><tr><td>Claims _____</td><td>NO</td></tr><tr><td rowspan="2">Industrial applicability (IA)</td><td>Claims <u>1-10</u></td><td>YES</td></tr><tr><td>Claims _____</td><td>NO</td></tr></table>	Novelty (N)	Claims <u>1-10</u>	YES	Claims _____	NO	Inventive step (IS)	Claims <u>1-10</u>	YES	Claims _____	NO	Industrial applicability (IA)	Claims <u>1-10</u>	YES	Claims _____	NO
Novelty (N)	Claims <u>1-10</u>		YES													
	Claims _____	NO														
Inventive step (IS)	Claims <u>1-10</u>	YES														
	Claims _____	NO														
Industrial applicability (IA)	Claims <u>1-10</u>	YES														
	Claims _____	NO														
2. Citations and explanations (Rule 70.7)	<p>1. Reference is made to the following documents:</p> <p>D1: EP-A-1 041 450 (CANON KK; HITACHI METALS LTD (JP)) 4 October 2000 (2000-10-04)</p> <p>D2: US-A-4 526 130 (YAMASHITA KEITARO ET AL) 2 July 1985 (1985-07-02)</p> <p>D3: IWAMATSU K: "ELECTROLESS NICKEL POLYALLOY DEPOSITS" METAL FINISHING, ELSEVIER SCIENCE PUBLISHING, NEW YORK, NY, US, Vol. 87, No. 5, 1 May 1989 (1989-05-01), pages 25-27, XP000025534 ISSN: 0026-0576</p> <p>2. INDEPENDENT CLAIM 1</p> <p>2.1 Document D1 is considered the prior art closest to the subject matter of claim 1 and discloses (the references between parentheses refer to that document): a casing (S) for transporting a toner mixture on its outer surface in a developing device, the casing wall consisting of aluminium and the outer surface of the casing (S) being provided with a nickel-copper-phosphorus intermediate layer (P<sub>1</sub>) produced by chemical</p>															

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/006927

Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
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deposition and an outer chromium layer (P<sub>2</sub>) produced by electroplating (see paragraphs [0022]-[0027]).

(Document D1 also indicates (see paragraph [0074]) that if a nickel-phosphorus layer is used as second layer, the chromium layer may also be dispensed with. A roll with a nickel-copper-phosphorus outer layer is therefore not known from D1.)

The subject matter of claim 1 thus differs from the prior art known from document D1 in that an outer nickel-copper-phosphorus layer is provided which contains 1 to 2 % copper and 8 to 10 % phosphorus.

The subject matter of claim 1 is thus novel (PCT Article 33(2)).

- 2.2 The current invention can therefore be considered to address the problem of devising a casing for transporting a toner mixture, favourable electromagnetic and mechanical properties being achieved for the functioning of the casing.

The solution to this problem as proposed in claim 1 of the present application involves an inventive step (PCT Article 33(3)) for the following reasons:

The problem is solved, in particular, in that the

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/006927

Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
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casing has an outer layer of nickel and copper, with 1 to 2 % copper and 8 to 10 % phosphorus, which results in sufficient electrical conductivity with only a very slight influence on electromagnetic properties. Many materials with similar electrical properties are known for forming the outer layer of this type of casing. However, in contrast to the claimed layer, said materials have a negative influence on electromagnetic properties, in particular by residual magnetisation of the layers. The claimed layer prevents such a negative influence on the electromagnetic properties. The formation of the magnetic field on the surface of the casing is considerably improved by the chosen material combination in relation to casings known from the prior art. In particular, the electromagnetic properties of the casing are improved in relation to a casing with an outer nickel-phosphorus layer, such as is known from document D1.

None of the cited documents (D1-D3) discloses the link between electrical conductivity, magnetic properties and layer hardness on the one hand and the alloying ratios of the layer for copper and phosphorus on the other hand. Consequently, the claimed layer is neither disclosed nor suggested by the prior art.

The subject matter of the current claim 1 is thus novel and also involves an inventive step.

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/006927

Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
3	<p data-bbox="391 344 1481 380">INDEPENDENT CLAIM 7</p> <p data-bbox="391 443 1481 674">The method as per the features of claim 7 differs from the known prior art in the same way as the subject matter of the current claim 1. The subject matter of the current claim 7 is therefore also novel and involves an inventive step.</p>
4	<p data-bbox="391 722 1481 758">DEPENDENT CLAIMS 2-6, 8-10</p> <p data-bbox="391 842 1481 1010">Claims 2-6 and 8-10 are dependent on claims 1 and 7, respectively, and therefore likewise meet the PCT requirements for novelty and inventive step.</p>